

Amendments to the Specification:

Please replace the paragraph beginning on page 19, line 15 with the following paragraph:

Two reference input voltages Vref1 and Vref3 are input to the ~~current~~ voltage conversion circuit 1B. The ~~current~~ voltage conversion circuit 1B has a common-mode detection circuit and a common-mode feedback circuit in the same manner as FIG. 3. The ~~current~~ voltage conversion circuit 1B converts the reference input voltages Vref1 and Vref2 to differential output voltages Vd3 and Vd4 on the basis of the ratio determined with a gain control signal Vgmcont2.

Please replace the paragraph beginning on page 20, line 8 with the following paragraph:

Two reference input voltages Vref2 and Vref3 are input to the ~~current~~ voltage conversion circuit 1C. The ~~current~~ voltage conversion circuit 1C has a common-mode detection circuit (CMD) 21, and a common-mode feedback circuit (CMF) 20. The gain control signal Vgmcont1 is input to the common-mode feedback circuit 20. The voltage conversion circuit 1C converts the reference input voltages Vref2 and Vref3 to differential output voltages Vd5 and Vd6 on the basis of the ratio determined with a gain control signal Vgmcont3.

Please replace the paragraph beginning on page 20, line 18 with the following:

The ~~voltage~~ current comparison circuit 4 creates the gain control signal Vgmcont3 in accordance with a ratio between one of the differential output voltages Vd5 and Vd6 (the differential output voltage Vd6 in this embodiment) and the gain control signal Vgmcont2.

Please replace the paragraph beginning on page 20, line 23 with the following paragraph:

The reference input voltage Vref1 and the control input voltage Vc are input to the voltage conversion circuit 1D. The voltage conversion circuit ~~ID~~ 1D has a common-mode detection circuit (CMD) 21 and a common-mode feedback circuit (CMF). The gain control signal Vgmcont1 is input to the common-mode feedback circuit 20. The voltage conversion circuit ~~ID~~ 1D converts the reference input voltage Vref1 and the control input voltage Vc to differential output voltages Vd7 and Vd8 5 on the basis of the ratio determined with the gain control signal Vgmcont3.